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THOMAS G. NEWMAN,
EDITOR.

Vol. XXVIII. Dec. 3, 1891. No. 23.

Editorial Buzzings.

The First annual exhibition of the Southwestern Michigan Poultry Association will be held at Kalamazoo, Mich., Dec. 16-19, 1891. O. J. Stone is the Secretary.

Honey was exhibited at the Northwestern Convention from willow herb (*Eptlobium*), by George E. Hilton, of Fremont, Mich. It is white, has excellent body, and is very pleasant to the taste.

The California Bee-Keeper has not been published since June, but Mr. Styan writes to us that he expects to revive it again in January. Absence from home prevented his giving attention to it for the latter half of the year. It seems to us that California ought to support a bee-periodical, and Mr. Styan made a good paper. Why not give it good support in return?

W. Z. Hutchinson says that there is one point that ought not to be neglected in preparing the bees for Winter, whether in-doors or out, and that is the leaving a space below the combs. When wintered out-of-doors, there ought to be a rim two inches high placed under each hive. This allows the dead bees to drop away from the combs to a place where they will dry up instead of molding between the combs. Then if there is an entrance above the rim there will be no possibility of the entrance becoming clogged. This space under the combs seems to be a wonderful aid in bringing the bees through in fine condition.

The Northwestern was a convention without essays, and it was a charming success. There was no want of subject-matter to discuss, and no lack of enthusiasm. With such a President as Dr. Miller, no essays or programme are ever needed.

A Frame comes from Will Butler, of Denham, Ind., which he calls an "Anti-Honey-Board Frame." It has a thin flat top-bar, and $\frac{1}{4}$ of an inch below it is nailed a V-shaped strip of wood to which the comb or foundation may be attached. That space above it and below the top-bar is for "Winter passages" for the bees. Mr. Bulter asks: "Would a frame like this do away with burr-combs, and make a good Winter passage?" While it might help, it would not prove an "anti-honey-board" frame. The principal feature—the break-joint principle—is not touched at all. By the division, the top-bar is weakened, and it is less adapted to the needs of the apiarist, both as to strength and also to prevent the breaking of combs. For Winter passages it would work; but all the advantages it offers in that direction can be obtained by using "Hill's device" without weakening the top-bar, and without making any changes in frames.

The Grading of Honey has long been a subject of interest, and it is now one of the *live issues* of the day among apiarists. Disputes often occur, as to the grade to which a certain shipment of honey belongs. The buyer, seller and middle man often disagree, and many times the editor of the *AMERICAN BEE JOURNAL* has been called in to decide disputes as to the commercial status of honey already shipped to this city.

When there are no rules for grading honey, it is a very unsatisfactory thing to decide between producer and dealer, or consumer. It is much like deciding as to the beauty of a lot of babies. Each mother naturally and honestly believes hers to be par excellence; but when it comes to "scale" them according to rules, defects are noted; and as a "finality," after dropping many contestants for non-conformity to the scale, the beautiful baby appears in all its charming loveliness.

So with comb-honey—every honey-producer, being more familiar with the appearance of his honey than that of other producers, does not notice the imperfections of sections, crates, etc., and knowing its deliciousness, decides that it belongs to the first grade, and so writes to the commission man. When it arrives, the latter, looking at it only with a commercial eye, sees many defects, and a dispute is the result. The dealer charging the producer with misrepresentation, and the producer charging the dealer with dishonesty. This is just about how it works, and is but a repetition of "complaints" coming to us quite frequently.

Now, an established scale of grading would settle all such matters. There would be no chance for either party to misunderstand "cold facts," and much trouble and ill-feeling would be averted.

We stated these facts at the late Northwestern Convention, and President Miller suggested that the convention should try to formulate a scale for grading comb-honey, and to this end a

committee was appointed, consisting of Dr. A. B. Mason, Mrs. L. Harrison, W. Z. Hutchinson, B. Walker, George E. Hilton, M. H. Mandelbaum and M. M. Baldrige.

This committee talked the matter over repeatedly, but came to no conclusion, and finally reported a disagreement.

President Miller, being always ready to harmonize anything coming before a convention, suggested that each member of the committee present to the convention the points submitted to the committee. They did so, and after considerable discussion of the points involved, the following scale for grading comb-honey was adopted:

FIRST GRADE.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb to be unsoiled by travel-stain or otherwise; all the cells sealed, and the honey of uniform color.

SECOND GRADE.—All sections well filled, but with combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain, or otherwise, and the honey of uniform color.

THIRD GRADE.—Sections with wood or comb, or both, travel-stained or otherwise much soiled, and such as are less than three-fourths filled with honey; whether sealed or unsealed, and crates containing two or more colors.

This scale for grading will be submitted for the consideration of the North American Bee-Keepers' Association, at the meeting to be held at Albany, N. Y., next week.

Some persons attempted to confound with this, at the Chicago convention, the idea that white honey *only* can be first-class; but as we understand it, that "has nothing to do with the case." Color does not control the grade; but the points entered in the scale does so, without reference to color. So that there may be a first grade of honey of Spanish-needle, buckwheat, white clover, basswood, etc.

To the Albany convention is submitted this whole matter, and we commend it to the careful and critical consideration

of every member present; because if it is adopted there, it will doubtless be the basis upon which all quotations of prices and all sales in the future are made in the honey markets of the United States and Canada.

Dr. A. B. Mason, we regret to learn, upon returning home from Chicago, was put upon "the sick list." His assistant in the Post Office was also taken quite sick on Saturday, Nov. 21. We are glad to announce that both are now improving.

Upon his return a reporter interviewed him, and as the points involved are those now interesting apriarists generally, we copy the article from the *Toledo Blade*:

Dr. A. B. Mason, of this city, probably one of the best known bee-keepers of America, has just returned from Chicago, where he has been to confer with Mr. W. S. Buchanan, the Chief of the Department of Agriculture for the Columbian Exposition, in regard to the preparation of an exhibit of bees and honey, and everything used by bee-keepers.

The doctor has been recommended for appointment as Superintendent of the Apiarian Department at the World's Fair in 1893, by the North American Bee-Keepers' Association, and his selection for that position would give universal satisfaction to the bee-keepers.

Mr. Buchanan having been quite an extensive bee-keeper himself, takes a deep interest in the apiarian exhibit, and assured Dr. Mason that he would do all he could to aid the bee-keepers in making a creditable exhibit of their industry, and suggested a plan for an exhibit of bees that was just in accord with the method that had been devised for their exhibition, and the Doctor feels quite elated over the prospects for a grand display.

Dr. Mason, at the last meeting of the North American Bee-Keepers' Association, outlined a plan for the exhibits that has received the endorsement of the bee-keepers, and adopted by all the State societies that have taken action in the matter.

He says that the Illinois bee-keepers tried last Winter to get an appropriation of \$5,000 from the Legislature, with which to make their State exhibit, and at the recent meeting of the Northwestern Bee-Keepers, at Chicago, he said

he thought that was not the way to do. His idea is to let the State Bee-Keepers' Associations of the different States have charge of the apiarian exhibit from their State, under the direction of the State Board of Commissioners, and let the State Board pay the expenses, which he thinks ought not to exceed one-half of that sum, and perhaps even less.

The space for the exhibit will, like many other departments, probably be somewhat limited, occupying not more than 300 or 400 feet in length. There will probably be a honey exhibit from fifteen or twenty States, so the space for each will be very small.

In a letter to the Doctor Mr. Buchanan says: "I would suggest that in considering the question of space, it should be borne in mind that in all probability demands will be made in all departments of the exposition for vastly more space than can be assigned, and in my judgment the most careful thought should be given to the question of how best to fully illustrate an industry in the most attractive and thorough manner, in a limited space."

At the Ohio centennial one party occupied 50 feet in length and full width of the allotted space, and the Doctor thinks bee-keepers will be very much disappointed in not being allowed to "spread themselves."

It is intended to have honey in all manner of fanciful shapes, and in all kinds of attractive and beautiful receptacles, so as to call forth from the visitors all the "sweet" expressions of amazement that all the languages of the world are capable of furnishing.

An effort will be made to have a large variety of honey-producing plants growing and in bloom on the grounds.

November brought us 1,587 new subscribers for the *ILLUSTRATED HOME JOURNAL*. It is a charming success. We will send it and the *BEE JOURNAL* to any one for 1892 for \$1.35. When renewing for the *BEE JOURNAL*, add 35 cents for the *HOME JOURNAL*, and you will not regret it. It is fresh, interesting and sparkling, and will bring cheer to your whole household. The January number will be a treasure.

Get a Binder, and always have your *BEE JOURNALS* ready for reference. We will mail you one for 50 cents.

Queries and Replies.

Ventilation of a Bee-Cellar.

QUERY 795.—1. Should a cellar be ventilated when the bees are in it? 2. If so, what is the best method of ventilating?—Iowa.

My cellar is not ventilated.—G. M. DOOLITTLE.

We give air without light to our bee-cellar, when it is too warm.—DADANT & SON.

I always winter bees on the summer stands, so have no experience in the matter.—J. E. POND.

I could never see any advantage in any kind of ventilation. I close my cellar up tight.—JAMES HEDDON.

1. I think so and practice it. 2. Sub-earth ventilation, with an upper one, to be opened with discretion.—MRS. L. HARRISON.

1. It is well to, ventilate, if you can do it without disturbing the bees. 2. I ventilate with a three-light sash, 10x12.—H. D. CUTTING.

1. When the conditions require it. 2. Ventilate farthest away from the bees, so that all will be effected alike.—J. M. HAMBAUGH.

1. Of course it should be ventilated if necessary. 2. Read a chapter on wintering in Cook's Manual, or any recognized authority.—J. P. H. BROWN.

1. Yes. 2. That depends on the kind of a cellar, and its surroundings. The object to be secured is pure air, and an even temperature of about 45°.—M. MAHIN.

Very little ventilation is needed. A 3-inch tin pipe, running from the cellar floor and connecting with the stove-pipe above, is a good arrangement.—C. H. DIBBERN.

1. That depends upon the size of the cellar, and the number of colonies to be wintered in it. 2. A big under-ground drain is as good as any other method.—G. L. TINKER.

Any device that you can control so as to admit the air and exclude it at will, as you can do with your sleeping room if it is properly constructed, I should think would be all that is necessary. I have little faith in anything that acts

automatically as a ventilator.—G. W. DEMAREE.

1. It should be arranged so that the bees can have pure air. 2. It depends upon circumstances. If the walls do not admit sufficient air, sub-ventilation may be necessary.—C. C. MILLER.

1. I believe so. 2. If an ordinary house cellar is used, I know of no better way than to have a chimney from the cellar, and a stove set up in the cellar, ready for a fire, if needed.—A. B. MASON.

1. Though I do not think express provision for ventilation necessary, yet it may be convenient for lowering the temperature during warm weather in Spring. 2. By a window and a chimney.—R. L. TAYLOR.

If the temperature can be maintained at the proper range, I think it unnecessary. Otherwise ventilation should be secured either by doors and windows, which are usually sufficient, or by sub-earth ventilation, which is expensive.—A. J. COOK.

1. It depends on the size of the cellar and number of colonies put into it. I do not believe bees in a proper condition need much air in Winter. 2. I have sub-earth ventilation through a 6-inch tile running 200 feet, but I do not know that the bees winter better than before using it.—EUGENE SECOR.

With a well-constructed cellar but little if any ventilation will be required. If ventilation should be deemed necessary for any reason, a chimney will be sufficient to give it. With this and a small screened door or window, the temperature may be regulated at will.—THE EDITOR.

YOU NEED an Apiary Register, and should keep it posted up, so as to be able to know all about any colony of bees in your yard at a moment's notice. It devotes two pages to every colony. You can get one large enough for 50 colonies for a dollar, bound in full leather and postage paid. Send for one before you forget it, and put it to a good use. Let it contain all that you will want to know about your bees—including a cash account. We will send you one large enough for 100 colonies for \$1.25; or for 200 colonies for \$1.50. *Order one now.*

Topics of Interest.

Foul-Brood Spread by Comb-Foundation.

S. CORNEIL.

In closing my article on the above subject, page 801, I intimated that I was obliged to omit some important matters. I now desire to reply to statements made by those whose views differ from mine, and to offer a reason, which has not hitherto been given to the public, for partial immunity from the disease, when using comb-foundation.

Mr. Root says I am magnifying a mole-hill into a mountain. I thank him for the admission that there is at least a molehill. He tells us the wax in his tank is kept at 170° to 180°, for days before it is worked up, and he explains that the supply is kept up by putting in a few cakes at a time, the melted wax being dipped out as required. Suppose a cake of wax, rendered in the solar wax extractor, from foul-broody combs, is put into this tank. Perhaps in less than a hour one of the hands from the wax room comes along, and dips out some of the wax melted from this cake. Is this foul-broody wax sterilized by being kept in the tank for less than an hour instead of for days, as is represented by Mr. Root? and was I not correct in saying I had no doubt that foundation is sent out the wax of which has never been heated up to 190°?

Mr. Root emphasizes his statement that "all history of foundation making, and its use are against my argument," and Prof. Cook backs him up when he writes regarding my contention that "experience says no, no." These gentlemen seem to forget that when foul-brood breaks out it is seldom known where the infection comes from. Mr. J. A. Green, for instance, who had over 100 colonies affected by the disease, says "I have not the least idea what caused it." How, I ask, can experience show that the infection does not come through comb-foundation in cases in which it is not definitely known how the disease arises?

When the disease broke out in Mr. Root's own yard he thought it came through feeding purchased honey, but it was only a vague guess. He had no proof that the honey contained the infection, nor did he know that it was extracted from diseased colonies. Since Mr. Root boldly admits that he placed in his hives foundation made from the wax

of contaminated combs, I submit that it is more probable that the disease among his bees was caused by using his own foul-broody comb-foundation.

Replying to the editor's foot-notes, I may say that the quotation I used is one taken by Prof. Huxley from a paper contributed by Dr. Roberts of Manchester, to the Royal Society. If, from the data contained in this single experiment, there was sufficient warrant for selecting other periods of time, and working out by calculation the corresponding temperature required to cause sterilization, as is done by the editor, instead of finding them out by direct experiment, Prof. Huxley and Dr. Roberts were quite competent to make such calculations, but they did not do so. Surely "men rush in where angels fear to tread."

The editor writes further as follows "In making comb-foundation the wax is held at over 212° for 24 hours, as shown by Mr. Dadant's statement on page 470." The statement on page 470 to which he alludes is as follows: "We have ascertained that to get rid of all impurities in beeswax we should keep it liquid for at least 24 hours." On the editor's attention being called to his two errors he corrected the first one but for reasons not apparent he allowed the second one to stand. Just why he should desire to keep Mr. Dadant's wax boiling for 24 hours after it is removed from the fire, and set away to cool, is a matter for the editor himself to explain.

It is always a pleasure to notice improvement. A short time ago Mr. Dadant showed that the microbes of wine are killed by a temperature of 140°; from this fact he argued that the spores of foul-brood in wax are certainly destroyed by 150°. This seemed so conclusive at the time that the editor of the AMERICAN BEE JOURNAL metaphorically ran up his colors, inscribed "The Scare is Over," and in "Stray Straws," Dr. Miller reported a decided improvement in his respiration. But, since I have shown that there are no spores in wine to be killed, and that Dr. Sternberg found a temperature of 212° necessary to kill the spores of foul-brood in fluid cultures, the temperature of 150° has been abandoned; and 212° is now adopted by my opponents as the maximum temperature necessary for sterilizing wax.

When dry heat and moist heat are spoken of as applied to spores, reference is made to the condition of the spores themselves as regards moisture. If they are in a soaked condition, or in the condition of seeds ready to sprout, they are

then most sensitive to the action of heat. But if they are dry and indurated they are not only very obdurate as regards the effect of heat, but they often resist the action of boiling water for hours, because the water does not readily penetrate their desiccated covering.

If the spores in wax were in the sensitive state described above, I frankly admit Mr. Dadant's process would sterilize his wax. Mr. Dadant says they are in this state, and he undertakes to show that not only the spores, but all foreign particles, have the wax with which they are encased, replaced by water during the process of boiling. He says "Our object in melting wax with water is to wet all the particles of extraneous matter to get rid of them. These particles, when soaked with water, are heavier than melted wax, and even the smallest and lightest substances sink to the bottom. Sometimes we find bits of paper which, soaked with wax, are so transparent that it seems impossible to separate the two substances, yet, when our cakes of wax are cold we find the paper altogether clear of wax. Suppose that instead of paper we have a spore of foul-brood; will this spore remain dryer than the paper?"

Since the gist of the above argument is that the wax in the paper is replaced by water, which causes the paper to sink, and, reasoning by analogy, that the wax with which spores are encased is replaced by water in just the same way; we shall test by experiment the accuracy of Mr. Dadant's observation of the facts.

I cut a slip from the margin of a newspaper which I place in water, and I find that it sinks to the bottom, not because the water it absorbs makes it heavier specifically, but because the paper itself is heavier than water. As wax is lighter than water, clean dry paper should sink in melted wax, even more readily than it does in water. I next place pieces of dry paper in melted wax, and, as was expected, down they go to the bottom, almost like shot.

From these two simple experiments the conclusion is inevitable that Mr. Dadant is mistaken when he says the paper sinks through the melted wax in his molds, only because it is made heavier by being soaked with water.

We shall next test the accuracy of Mr. Dadant's observations, regarding the wax being replaced by water during the process of boiling.

In a vessel containing clean boiling water I place a piece of paper which has been dipped in wax, in order, if possible,

to free it of wax, and to saturate it with water instead. I have at hand a hot smoothing iron and a piece of writing paper, so as to find if, after the boiling process, there is even a trace of the wax remaining in the paper; but the smoothing iron and writing paper are unnecessary, because, after boiling the waxed paper for a longer time than it is ever boiled in Mr. Dadant's tank, I find that it is still stiff and semi-transparent with wax. I repeat the boiling, this time forcing the paper below the surface of the water, and the result is the same. I place the waxed paper between folds of the writing paper and apply the hot iron, and I find I have great blotches of wax.

Since the wax is not replaced by water, when the paper is boiled in water without wax, it is much less likely to be so replaced, when boiled in Mr. Dadant's tank, containing a small quantity of water, and a large quantity of melted wax.

It must now be clear to the reader that in Mr. Dadant's molds all foreign matters, including foul-brood spores, remain like the paper, encased in wax. If they sink it is because they are specifically heavier than wax, and not because they become soaked with water, as alleged by Mr. Dadant.

When I first took up this subject I coated some garden seeds with melted wax, and I exposed others from the same paper, which were not coated, to the same temperature. The latter sprouted when placed in wet flannel in a warm room, but the former, treated similarly, showed no signs of sprouting, because they could not absorb water. They remained dry in their coating of wax, although wrapped in wet flannel. It is just so with the spores of foul-brood in Mr. Dadant's tank; they remain dry in their coating of wax, and, as previously shown, require probably a temperature of 284° for three hours, to destroy their vitality, or a still longer time at a lower temperature.

The foregoing are very simple experiments. Let the reader repeat them for himself, and he will be convinced that Mr. Dadant has not been as accurate in observing facts as he should have been.

But I may be asked this question: If, as you say, spores encased in wax are dry, and cannot germinate, because they cannot imbibe water, is this not exactly their condition when in a sheet of comb-foundation? I answer: Yes, this is quite true; so long as the spores are imbedded in the wax, they are harmless. This answers all Mr. Dadant's remarks

about the immunity of his bees while inspecting his cakes of wax, and while nuzzling among the skimmings from his tank; and it answers all that has been written about the universal spread of foul-brood, if it is true that foundation may contain live spores.

But, while voluntarily making this admission, I wish to say that I think it reasonable to believe that, when bees are drawing out foundation, or during some of the numerous changes of form which wax undergoes in the hive, spores may occasionally become stripped of their coating of wax, and, being exposed to moisture, perhaps in the saliva of the bees, or in the food of the larva, may start the disease. The probability of this taking place is so great that bee-keepers would hardly venture to use foundation knowing it to contain fertile spores.

There is probably nothing more to be added to our present knowledge of the subject by further argument. What we now require is experiment to determine the death point of spores of foul-brood in melted wax. When this is known we shall probably require to know the length of time a temperature of say 180° must be applied to have the same effect as the temperature causing sterilization. If these facts were known I am sure the manufacturers would willingly make the necessary changes in their processes to meet the new requirements.

To have the confidence of all concerned, such experiments should be made by Dr. Sternberg, or some one equally competent. This will cost money, which at present is not in sight.

The interests of manufacturers of foundation, and the interests of bee-keepers who use it, run parallel in this matter. If foul-brood is more prevalent now than it was fifteen years ago, which is the opinion held by many, and if this increase is attributable to the almost universal use of comb-foundation of late years, which I believe is the case, it is only a question of time till bee-keeping will become unprofitable, and foundation will not be in demand. We are all in the same boat, and we should all be equally desirous to know the whole truth.

Lindsay, Ont., Nov. 17, 1891.

[We have given the foregoing article exactly as it was written, in order to try to satisfy our correspondent.

In reference to the error made in our remarks on page 804, we would say that we made a correction on page 39,

but it seems that we did not quite cover the whole ground. The second and third lines of paragraph 6, of the foregoing article (page 713) should read thus: "The wax is heated to 212°, and kept liquid for at least 24 hours." By an oversight in quoting from Mr. Dadant, the sentence was incorrect. But this does not at all interfere with the argument, which it seems to us is unanswerable, and it matters not whether it is made by a scientist or not. It may be true that we "rush in where angels fear to tread," but the argument is just as strong as if made by a scientist. That it may not be lost sight of, we give it again in its entirety, as corrected above. Here it is:

On page 448, Mr. Cornell approvingly quoted this remark: "An exposure of 1½ hours to a temperature of 212° appeared to be equivalent to an exposure of 15 minutes at 228°"—just one-sixth of the time. The difference between 212° and 257°, the point at which spores are surely killed, is 45°. If that 1½ hours are reduced to one-sixth of that time by the increase of 15° in temperature, then 1½ hours at 212° equals 5 minutes at 257°. And Mr. Cornell affirms that "it has been ascertained that a long exposure to a lower temperature produced the same effect as an exposure to a higher temperature for a shorter time."

Dr. Sternberg shows that the death point in micro-organisms was from 122° to 212°, and that 5 out of 37 of the strongest of them required 4 minutes of moist heat to cause death, and one of that five was *bacillus alvei* (foul-brood microbes).

Now, instead of merely subjecting these microbes for 4 minutes to 212° in making comb-foundation, the wax is heated to 212° Fahr., and kept liquid for at least 24 hours, as shown by Mr. Dadant's statement on page 470. Surely, this is more than sufficient to take the life out of even the strongest microbes; as they are for many times the length of the time exposed to the temperature re-

quired to kill "one of the most resistant pathogenic germs known."

There is not, therefore, the slightest excuse for further agitation of the question, or for the suspicion that the use of comb-foundation, when properly made, can possibly aid in spreading the disease.—Ed.]

Colorado State Convention.

H. KNIGHT.

The semi-annual meeting of the Colorado State Bee-Keepers' Association was held in Arvada on Oct. 22.

President Millison called the meeting to order at 10 o'clock.

The minutes of last meeting were read and approved.

The idea of holding a "honey day" each year in some town outside of Denver, was advanced by Mr. Rhodes, and met with favor from all the members present.

Mr. Honnett said that Golden was the most appropriate place for the first "honey day." President Millison also favored Golden. Mr. Higgins stated that Golden would offer inducements in the way of premiums on exhibits, low railroad and hotel rates, etc.

A committee of five was appointed to arrange for a Honey Day, as follows: B. Honnett, R. H. Rhodes, D. Devinney, Thos. Crisman and G. W. Dollison.

B. Honnett asked to have "The Proper Time to Put on Sections" discussed.

Mr. Ranchfuss said, when the colonies are strong, and just before the honey begins to flow. The exact time cannot be fixed, for the season varies.

Mr. Carlzen, of Montclair, puts on the sections early, as an inducement for the bees to go up into the supers to work, and thus prevented swarming to a certain extent.

Mr. Ranchfuss, of Harman, had practiced putting drone-brood into two or three surplus sections, and said that it will get the bees to work every time. He also adds that bees must have proper ventilation.

The President said that all necessary supplies should be on hand when the season opened, so as not to lose the best part of the honey-flow.

Mr. Ranchfuss reported 100 pounds of honey per colony, although the sea-

son was short, and a hail storm destroyed many of the flowers. Nearly all of his honey was from cleome.

Mr. Porter, of Arvada, gave his experience with natural swarming and dividing, and prefers the latter.

Mr. Porter, an expert from Longmont, posed as an A, B, C scholar, and asked for information, which he got.

Mr. Miller, of Longmont, arose and addressed the convention with much eloquence and sweetness.

Mrs. McDaniel, of Denver, called for Mr. Adams, the inspector of Boulder County.

Mr. Adams came forward and talked about bees and honey in his county. He reports foul-brood there.

The President adjourned the meeting until we returned from Rhodes' ranch, to which all were invited to partake of chickens raised by Mrs. R.

The afternoon session was opened with a song by the Rhodes sisters.

Mr. Rhodes was called upon to read the foul-brood law, which he did. When Mr. Honnett asked how the inspectors were to disinfect themselves, Mr. Rhodes explained that carbolic acid, reduced, was the best disinfectant.

Then followed a general talk on the contagious diseases of bees.

Mr. E. B. Porter thought that the inspector should be compelled by law to visit each apiary in his county at least once a year.

Mrs. McDaniel asks how to disinfect hives. Mr. Ranchfuss burns gasoline in them, others boil, or scald and scrape them.

Mrs. Boyd asks why the yellow jackets destroy the bees. Mr. Adams and President Millison said that only weak colonies are destroyed thus.

The Secretary gave an account of Mr. Collins losing 35 colonies by jackets.

Mr. Ranchfuss had noticed that the "bee-killer" had been very numerous during the past season, and many bees were destroyed while in the fields, which left colonies in a weak condition, to be finished by yellow jackets.

Mr. Porter asked how near the hives should be together.

Mr. Ranchfuss said that it depends on circumstances. If all the queens are laying when given to the colonies, they can be very close, but if young queens are to mate from the hives, they should be further apart. He recommended painting the entrances different colors.

Mr. Carlzen wants to know how to get a good price for our honey crop.

Mr. Honnett's opinion is that we cannot regulate prices.

Mr. Carlzen also said that a poor grade of California honey is being sold in the Denver market for Colorado honey.

Mrs. Boyd asks why most of the honey this season is dark colored, which the Secretary said was caused by so many yellow flowers.

Mr. Devinney had an idea that it was gathered from sweet clover.

Mr. Ranchfuss and President Millison both said that sweet clover yields white honey. Mr. R. said that their bees got yellow honey in the first of the season, and white the latter part, which is an exception to the general rule.

The question-box was opened, but only three questions were found.

No. 1. What will be the result of putting two or more swarms into one hive? Answered by Ranchfuss, that the bees will destroy all queens but one. Possibly kill them all, and leave the colony queenless. To unite colonies, sprinkle them with flour, while they are getting the flour off, they will become acquainted.

No. 2. Why do bees have surplus comb uncapped, though filled with honey, during a honey-flow? Mrs. Hartman answered that the weather was not warm enough to make wax.

Mr. Ranchfuss added that the weather turned suddenly cold which caused the bees to desert the outside sections.

No. 3. Has any one had experience in the cellar wintering of bees in Colorado? Mr. Devinney said that he had, but would not recommend it here.

A committee was appointed on co-operation, looking forward to the controlling of the prices on honey in the northern counties of the State. Chas. Adams, of Greeley; G. C. Miller, of Longmont; J. A. Ferguson, of Loveland; B. Honnett, of Arvada; H. Knight, of Littleton, were appointed as the committee, when the President was added as chairman, and H. Knight made Secretary.

The Rev. Mr. Stone then made a few very appropriate and pleasing remarks which were followed by Mr. Honnett on "The Benefits of this Meeting," in which he struck the key-note, by saying that it had done us all much good to meet together.

Mr. Honnett then introduced a resolution, thanking Mr. and Mrs. Rhodes for the entertainment, which was seconded by every one present.

The President, in a short speech, closed the meeting.

Littleton, Colo. H. KNIGHT, Sec.

Apiarian Exhibits at a California Fair.

The entries for premiums were few, and the display of bees and honey rather below what it has been in years past.

C. F. Jost, of Banning, who owns and handles 200 colonies of bees, exhibited 48 pounds of comb-honey, the very best in sight, but made no entry for a premium.

W. W. Bliss, of Duarte, had four small sheets of comb-foundation entered, competing for a diploma, which the judges awarded to him.

J. Archer, of Ventura County, exhibited his new hive. He says it gave 830 pounds of extracted-honey and 60 pounds of comb-honey in one year. He had about 30 pounds of honey and 50 pounds of extracted-honey on the competitive list, and took the blue ribbon, and scores A1 for both bees and honey.

Mr. Archer is very confident that his hive is superior to any other, and offers to compete with any one in the production of both comb and extracted-honey, or either article. He will use his hive and no foundation whatever, the competitor to use any but Mr. Archer's hive, and be compelled to use foundation.

Mr. Archer will put up 150 colonies of bees as a forfeit if he does not produce one-third more honey in one season than any other party, either of comb or extracted, in any good year in the locality of Ventura County, the competitive hives of bees to be put in the same range and have equal chances, two judges to be selected, one by Archer and one by competitors, the judges to select one colony of bees from Mr. Archer's apiary and one from the competitor's apiary, and the judges to determine at the end of the season as to the quantity of honey produced, and in case they cannot agree then they are to select a third party, as additional judge, to determine the contest.

Mr. Archer will meet competitors half way from the respective apiaries, the judges to select the locality for the contest, and the bees all to be kept in one hive for each one of the contestants. And further, the contestant to put up as a forfeit in case he gets less honey from his one hive than J. Archer does from his one hive, either 150 colonies of bees or their value in money.

Mr. Metcalf, of Santa Paula, had on exhibition a newly patented honey extractor that deserves the attention of producers of extracted-honey. We think it is as near perfection as any machine we have seen, and its capacity to do a

large amount of work in a short time is a fixed fact. The comb baskets are reversible, and the gearing so adjusted that it works smoothly and lightly. It carries either four or six comb baskets as desired, and the cost is within reach of any one owning and handling 40 colonies of bees.

C. N. Wilson entered 170 pounds of extracted, and 120 pounds of comb-honey, and carried off the red ribbon.

It is not to the credit of the bee-keepers of the district that so little interest is shown in exhibits at this annual fair. While it is true that the premiums offered are small, they are in proportion to premiums offered in other divisions, and it is probable that more would be offered if greater interest was taken by bee-keepers in the success of the Sixth District Agricultural Association. —*Rural Californian*.

Bee-Keeping in Wisconsin.

A. E. BRADFORD.

This has been a poor year for honey in this locality. It was a very cold, backward Spring, and we had a frost that killed all the bloom on the trees, such as box-elder, maple, willow and poplar—that is all the kind of timber we have that bees work on to amount to anything, for it is a prairie country, and all the trees we have are those that we have set out.

I think this is a good locality for honey, but I was told by some old bee-keeper that if I had my bees in the woods some eight or ten miles from here they would do much better, so I moved part of my bees eight miles, to where there was basswood in abundance.

I took care of them myself, going in every morning. They swarmed more than I wanted them to, but all small swarms I doubled, so that I have all strong colonies, but I have got very little honey—about 35 pounds per colony, Spring count.

Now, when a man tells me to take my bees into the woods, I ask him what his honey crop has averaged per colony for the last three years, and if he knows and will tell the truth, I find that my bees do the best, if it is a prairie country.

I reared queens for my own use on the Doolittle plan, and I must say that it pays to rear queens, if only for the fun there is in it.

I have a hive that suits me better than anything I have seen, and I will give

the dimensions of it: Inside, $11\frac{1}{2} \times 13\frac{1}{2}$ inches; depth of back end, $11\frac{1}{2}$ inches; front, $14\frac{1}{2}$ inches. It will hold $18 \frac{4}{4} \times 4\frac{1}{4} \times 1\frac{1}{2}$ sections. I have tried this hive, and have found it good for surplus, and also for Wintering, for it is always clean on the bottom, and I have found that if the bottoms of the hives are clean all the time, there is but little danger in Wintering.

Hammond, Wis.

Northwestern Bee-Keepers' Convention.

W. Z. HUTCHINSON.

The bee-keepers of the Northwest held their annual meeting at the Commercial Hotel, in Chicago, on Nov. 19 and 20.

The convention was called to order at 9:45 a.m., with President Miller in the chair. The exercises were commenced with a prayer by A. I. Root.

Honey Quotations and Grading.

Thos. G. Newman—Commission men are buying honey much more than in the past. They are buying, instead of selling on commission.

A. N. Draper—This may be the result of a small crop. When there is a small crop they buy; when the crop is large, they sell on commission.

President Miller—Why does not comb-honey sell for more than 16 cents, when there is such a scarcity?

E. T. Abbott—Many commission men in St. Louis do not distinguish between poor and good honey.

President Miller—I often get higher prices for honey than those given in the quotations. Others have reported similarly. This is an injury to us. Men see the quotations, and sell at home at low figures. What can we do about it?

Thomas G. Newman—We send out postal cards all ready to fill out to dealers, and try to give fresh reports.

A. I. Root—This is substantially what we do.

W. Z. Hutchinson—It looks, on the face of it, as though commission men reported honey too low. I know a man who sent honey to a commission man in Chicago. This dealer was quoting honey at 15 cents, yet the honey was soon sold at 18 cents.

Geo. E. Hilton—The honey in Northern Michigan is of excellent quality this year. It is from the great willow herb. There are thousands of acres of this plant 25 miles north of me. I think we confer a benefit on producers when we

go about among them and buy their honey at a shilling a pound.

B. Taylor—I want to put myself in opposition to any attempt at "cornering" honey. There is never any "corner" on any product until it has passed out of the hands of the producers. I sell my own honey. Not near home, however. I load a car and push out West. In Minnesota the quotations are not above the prices paid.

E. T. Abbott—Suppose we ask dealers to say how much they will *pay* for honey?

A. N. Draper—Honey is often quoted *too low*. The market reports are made up of quotations upon different articles. I think the honey quotations are taken from the price-current sheets.

President Miller—They do not do this.

G. K. Hubbard—Why not ask dealers to say for how much they have actually *sold* honey?

Thomas G. Newman—They will not do this. They say: "We *quote* honey so and so," but they do not give reports of sales.

President Miller—I do not say it to boast, but I suppose I once raised the price of honey 2 cents a pound in Chicago. I went around to the papers and showed them I had made *actual sales* at 2 cents above the quoted prices, and the papers put up their quotations.

M. H. Mandelbaum (with S. T. Fish & Co.)—I will fill out any blanks that the bee-periodicals will furnish.

A. B. Mason—I see no objections to dealers saying for how much their honey is sold.

E. T. Abbott—I do not care to tell at what figures I *sell* honey. I am willing to tell what I *pay*, but it is nobody's business what I *sell* it for.

President Miller—We are mixing things. I think Brother Abbott is willing to tell what he *pays* for his honey.

E. T. Abbott—Certainly.

President Miller—If a man is selling on commission, it is also proper that he should tell at what price he sells. If he buys and sells, it is, as Brother Abbott says, nobody's business at what price he sells. In connection with this matter, there is the question of grading honey. How should the different grades be distinguished?

Thomas G. Newman—Many of the troubles we have been discussing arise from the lack of a standard in grading honey.

A. I. Root—We have no end to troubles and losses because the honey sent us as first-grade honey is not what we call first grade.

On motion of A. B. Mason a committee of seven was appointed to draft a standard of grading for honey. The committee appointed was as follows: A. B. Mason, M. H. Mandelbaum, George E. Hilton, Byron Walker, M. M. Baldridge, Mrs. L. Harrison and W. Z. Hutchinson.

Paying Dues.

A recess was now taken, when the following members paid their dues:

Thomas G. Newman, Chicago, Ills.
C. C. Miller, Marengo, Ills.
J. S. Seeley, Oswego, Ills.
M. M. Baldridge, St. Charles, Ills.
E. T. Abbott, St. Joseph, Mo.
E. Whittlesey, Pocatonia, Ills.
J. M. Hambaugh, Spring, Ills.
Geo. E. Hilton, Fremont, Mich.
A. I. Root, Medina, Ohio.
I. Schirer, Petona, Ills.
A. N. Draper, Upper Alton, Ills.
M. H. Mandelbaum, Chicago, Ills.
B. Taylor, Forestville, Minn.
Frank Seeley, Yorkville, Ills.
W. C. Lyman, Downer's Grove, Ills.
Byron Walker, Capac, Mich.
W. A. Vance, Glencoe, Ills.
O. O. Poppleton, Hawk's Park, Fla.
G. K. Hubbard, Ft. Wayne, Ind.
J. C. Wheeler, Plano, Ills.
W. Z. Hutchinson, Flint, Mich.
Jno. Rehorst, New Hampton, Iowa.
W. P. Fulmer, Wheaton, Ills.
N. Staininger, Tipton, Iowa.
A. B. Mason, Auburndale, Ohio.
J. H. Larrabee, Agricultural College, Mich.
Frank Blecka, Elgin, Ills.
E. S. Hubbard, Oil City, Iowa.
A. Y. Baldwin, DeKalb, Ills.
C. P. Dadant, Hamilton, Ills.
N. L. Stow, South Evanston, Ills.
G. W. Redmond, Paris, Ills.
R. R. Murphy, Garden Plains, Ills.
J. A. Green, Dayton, Ills.
R. A. Burnett, Chicago, Ills.
E. W. Farrar, Downer's Grove, Ills.
J. Fornerook, Watertown, Wis.

LADY MEMBERS.

Mrs. L. Harrison, Peoria, Ills.
Mrs. G. K. Hubbard, Ft. Wayne, Ind.
Mrs. N. L. Stow, South Evanston, Ills.
Miss Emma Wilson, Marengo, Ills.
Miss Zetta Strong, Ottawa, Ills.

Apiarian Experiments at Lansing.

When the meeting was again called to order, President Miller said that the Secretary had informed him of the presence of Mr. J. H. Larrabee, who has charge of the apiarian experiments at the Agricultural College of Michigan,

and he (the Secretary) had suggested that perhaps Mr. Larrabee would like to have bee-keepers tell him what experiments they would like to have him try. For one thing, the President would like to learn what Mr. L. had already done.

J. H. Larrabee—We have made some experiments to determine how many pounds of honey are consumed in secreting 1 pound of wax. We have also decided not to experiment further in planting for honey.

J. A. Green—Why have you so decided?

J. H. Larrabee—It takes too many acres of plants to do any good. We had eight acres of rape near the apiary, but it seemed to furnish no honey.

O. O. Poppleton—Practical bee-keepers decided long ago that it did not pay to plant for honey alone. But an experiment of even eight acres of rape for one year is not conclusive. Some years the fields are white with the bloom of clover, yet no honey is secured.

President Miller—I think it would be well if the results of these experiments could be given monthly. Many who read them might thereby get helpful hints, or might be able to help the experimenter in a similar manner. Perhaps the Secretary of Agriculture might not like to have Mr. Larrabee "give away" this matter in advance of his report to the Government, but I presume the Secretary does but little reading of the bee-periodicals, and probably would know nothing of the matter.

J. H. Larrabee—It is Dr. C. V. Riley to whom I report. I presume he reads bee-literature more or less. It is quite likely he would not object to my giving in advance to the bee-periodicals the results of my experiments. It would certainly do no harm to ask him.

Upon motion of J. A. Green the Secretary was instructed to write to Dr. Riley and ask permission for Mr. Larrabee to publish in advance, in the bee-periodicals, the results of experiments when he thought best to do so.

Contraction of the Brood-Nest in Wintering.

In reply to a question, C. P. Dadant said he did not contract unless the combs were empty, or the colony weak. His hives contain 9 Quinby frames. If the bees occupied 7 combs, he would not remove any.

A. I. Root—I do not advocate 8-frame hives, but you know the boys do. They say that taking off the upper story contracts sufficiently for Winter.

President Miller—I have about con-

cluded that the man who uses 8-frame hives must feed the bees in the Fall or Spring—perhaps both.

A. I. Root—Would it not pay better to contract and get the honey in the sections where we can sell it for 18 cents, and then feed up on granulated sugar?

C. P. Dadant—We have found it to pay better to leave in plenty of honey, as the bees breed up better in the Spring.

President Miller—Is a comb full of honey, that will not be used in the Winter or Spring, of any advantage.

O. O. Poppleton—Yes; it gives the bees confidence to go ahead and use what honey they need.

B. Taylor—I am willing to go to the trouble of taking out any extra comb in the Fall, and returning it in the Spring. A comb not covered with bees can be kept much better out of the hive. The more completely the combs are covered with bees the better, provided there is sufficient stores. It is surprising to see into how small a space bees can be crowded in the Fall.

Verbal Statistics.

President Miller said that after reaching home, and reading over the report of a meeting we often find that some man was there whom we were particularly anxious to meet, but we did not know he was there. If, by means of a badge, or in some other manner, we learn that a stranger whom we meet is a bee-keeper, we immediately wish to know, and probably ask his name, then his place of residence, next, how many colonies he has, then how much honey he secured this year. That is about the way it goes.

He proposed that each one stand up in turn and tell his name, residence, number of colonies, and yield per colony. This was done, and proved quite interesting, as well as amusing in some instances. If this could be done sometime during the first day, it would help some in making acquaintances.

Prevention of Swarming.

A. I. Root said: Get a race of bees that will not swarm; the same as we now have non-sitting strains of poultry.

President Miller—Is not the thing possible?

O. O. Poppleton—I have several times tried buying queens that were cracked up for this or that—among other things that of non-swarming—but I have quit it. It is no go.

J. A. Green—Bees may not swarm for a year or two; then they go at it again.

C. P. Dadant—For 15 years we have had very few swarms. We give plenty of empty comb in which to store the honey. If we wait until the bees have the swarming fever before giving the room, it will not prevent swarming. Excluding the queen from a portion of the hive also has a tendency to cause swarming.

J. A. Green—I did not have a swarm from 60 colonies where queen-excluders were used.

W. Z. Hutchinson—For three years I have sold my tested queens in the Spring, replacing them with young queens from the South. When the young queens were introduced before the swarming fever set in, no swarming followed. In only one instance did a swarm issue, and then the queen was imperfect in some respect. She laid only a few eggs, and the bees seemed dissatisfied.

C. P. Dadant—The presence of drones has a great influence on swarming. One reason why bees with a young queen are less likely to swarm is that a young queen does not lay so many drone eggs.

J. A. Green—I think something might be done with traps in the way of getting drones out of the hive.

C. P. Dadant—It is better not to rear them.

B. Taylor—I am inclined to agree with Brother Dadant that drones have a great influence on swarming. I also got some hints from his idea on keeping a swarm awhile before returning it to its hive.

Do Bees Injure Crops by Taking Away Honey?

A. I. Root—I believe Prof. Cook has answered this question in the papers by saying that they do not.

B. Taylor—Bees are needed to fertilize blossoms, and Nature commits no fraud.

President Miller—We are inclined to decide as we wish it to be. If we say that honey is evaporated if the bees do not gather it, it is nonsense. I saw honey, last Winter, in blossoms that had faded in my room.

J. H. Larrabee—If the nectar is found dried down, it is proof that the plant does not appropriate it.

President Miller—Perhaps the honey left in the blossom is a benefit to the stock that eats the hay. There is no doubt that the gathering of the nectar is a benefit, on the whole, but let us not say that the carrying away of the nectar is no injury to the plant.

C. P. Dadant—The blossoms yield honey and an essential oil. The latter gives the perfume. The oil and water

may be evaporated, but the saccharine portion of honey cannot be evaporated, as we all know.

Bees Injuring Grapes.

A. I. Root—In California bees destroy grapes while they are being dried into raisins. This has become so serious a matter that in many places the bees are moved to some other locality.

A. B. Mason—One grape-grower near Cleveland told me that the absence of bees caused him a loss of \$500 in one season. Whenever a grape cracks it soon spoils. The bees suck the juices from the cracked fruit, and save the labor of removing the injured fruit.

C. P. Dadant—Bees cannot bite. They can take hold of any fiber, in a fibrous material, and pull it out. They cannot bite the smooth surface of a grape any more than a man can bite a piece out of a plastered wall.

President Miller—Last year, when there was nothing for the bees to gather they did not eat the grapes. If they could, why did they not do it?

Concluded next week.

Bee-Keeping in Central Missouri.

CALEB L. BUCKMASTER.

The Fall harvest from Spanish-needle has been very good, and if the extractor is not used the bees will have enough stores from this source to Winter well.

There has never been as large a crop of honey-dew as that gathered last Spring, and all bee-keepers unite in saying that it is the blackest they have ever seen.

There seems to be a great deal said of honey-dew. I not believe the reports of our scientific men on the honey-dew, but I am firm in the opinion that when thoroughly investigated it will prove to be of vegetable origin, and not the products of insects.

I am sure of one thing, and that is, that to have furnished the amount of honey-dew produced in Boone County, Mo., this year would have required a multitude of insects sufficient not only to have filled the trees, but the whole atmosphere.

When attending the lectures of Dr. J. G. Norwood, of the University of Missouri, some years ago, the subject of honey-dew was lectured upon, and the conclusion reached that the scientific world, after laborious research, had decided that there was no solution to the question. Since that time I have heard

many theories advanced, including the one advanced by Prof. A. J. Cook.

Now, the professors at the head of agricultural and scientific colleges are called upon to account for a certain phenomenon; they investigate, and think they have found the real cause, and honestly give the results of their investigations, not using any positive terms. As there is no one to dispute this opinion, the common people take this as a positive scientific result, when the professor never intended it for such.

When this insect theory was first advanced, I thought it a good one; but when I stood under trees whose leaves were dripping with sweetness, and could not see an insect to produce it, I became skeptical. I can believe that men have seen our honey-bee gathering the excrement of some insects, but I do deny that these minute insects are the origin of our immense honey-dew crops. I claim that when rightly investigated it will prove to be of vegetable origin.

Now, for another queen-excluder: Take the broad frame containing the sections $4\frac{1}{4} \times 4\frac{1}{4} \times 1\frac{1}{4}$, and turn it upside down. Tack a strip of perforated zinc from one end to the other over the holes that the bees pass through, leaving one-half of the zinc projecting to cover the holes in the next broad frame. When the sections are put in, and the frames wedged in the super, you have a perfect queen-excluder, with half the expense of those in the market, and we have only one bee-space instead of two under the super, causing the bees to enter sooner. Columbia, Mo.

Keeping Bees in an Attic.

A. C. SANFORD.

While many a family would like to keep a few bees to produce honey, but very few know how to manage them properly. The result generally is that they are not attended to, the swarms fly away; and the bees swarm when the farmer is haying, and his wife, or some of the hired help, or neighbors, are left to attend them. All know, also, that bees have stings.

That is not always very agreeable; but I have a plan by which almost any family may keep a colony or two of bees with very little trouble, and have plenty of honey. Here it is:

Make a small, dark, frost-proof room about 4x6 feet, as may suit your own convenience best, in the upper part or attic of your house. Erect a scaffold

inside this room 4 feet high, and within 6 inches of the side, where you wish the entrances, which should be about 6 inches wide by $\frac{1}{4}$ inch high. This may be enlarged or contracted to suit the season of the year.

These entrances should be on that side of the house which is used the least, for bees sometimes get too familiar. Now put the hives on the scaffold, about 6 inches from the entrance. Make a little board for them to travel out and in on.

A hive should contain about 2,000 cubic inches, and have holes in the bottom. It is said that bees will seldom swarm from such a place, and will winter well there, even in as cold a climate as Wisconsin.

Of course further north the room must be warmer. Bees will build comb under their hives in large quantities, in favorable seasons, in such a room, and the owners, when they want honey, may go with a light placed at one side, smoke the bees, and cut off what honey they want.

This plan is not a mere "castle in the air," but is a practical one. I am an experienced apiarist, have been in the business many years, and have produced tons of honey.

Ono, Wis.

Introducing Virgin Queens.

JOHN HEWITT.

In the notice of the Punic queens I sent you, Mr. Editor, on page 167, for Aug. 5, you omitted to say they came by post, and were *virgins*.

It is pretty well believed by every bee-keeper in America that old virgin queens cannot be safely sent a distance, and introduced in an easy and simple manner to strange bees. Even G. M. Doolittle says, in *Gleanings* for July 15, 1891, page 583: "I consider the introduction of virgin queens as impractical." And A. I. Root says at the foot of his letter: "We have several times given our opinion that it did not pay to buy or sell infertile queens. If one could be sure of getting them the day they were hatched, either in the hive or some kind of nursery, they might prove valuable; but when it comes to trying to introduce those that are several days old, our experience is exactly with you."

Now, all bee-keepers know that queens do not mate until several days old, yet Mr. Root admits they "might prove valuable" if they could be had just hatched, and if *valuable* at one day old, how much more so would they be at from

6 to 12 days old, when ready to mate? It has always appeared to me to be a stupid practice when one finds a colony queenless, or one he desires to divide, to send for a fertile queen when a virgin would do just as well, for we have on one hand a waiting, queenless colony and drones, and on the other a queen in a nuclei, with perhaps less chance to mate her.

For three years I have been selling virgin queens in England, safe delivery and introduction guaranteed, and I must say G. M. Doolittle and A. I. Root have been rather slow not to have known of this fact, particularly as it was published in the *Canadian Bee Journal*, with all the instructions for introducing the queens, which G. M. Doolittle could not have read with any attention, or he would not have asked Brother Jones to "tell us in detail just how he does it." See *Gleanings* for July 15, page 585.

The way I do it is as follows: If the party is a new hand, and does not know my system, I send him, three days in advance of queens, notice that they will be sent in three days, and instructions how to introduce them. Up to this year I sent two days' notice, and queens four days and upwards old, but finding four days old too young, and two days' notice too little for most, I now give three days' notice, and send queens six days old. When my system is understood, parties can have them on receipt of their orders.

No queen is now started off until she is six days old, which was the age of those I sent you, Mr. Editor, and after traveling from here to you, and safely introduced in accordance with my printed instructions, shall Messrs. Doolittle and Root, or any one else, say that such queens cannot be safely sent a distance, and introduced to other bees?

My experience this year indicates that my instructions are about infallible. Certainly I have not for three years had a verified report of failure. When there has been a failure, a queen, eggs, or brood, has been found, and when removed a virgin was subsequently introduced safely. People have failed and then have written to me asking what to do, after saying what they had done. Some have been indignant when I told them to "remove the other queen from the bees first." This year, with more perfect instructions, pointing out where failures may occur, I have only had one case of reported failure—two queens sent to one party, both of which were lost. Other queens were subsequently found in the hive.

Mr. Doolittle says, in *Gleanings*, as quoted above, "bees will often kill a virgin if only combs having no brood are placed in the hive within forty-eight hours after the bees have liberated her." Surely he cannot have tested the matter much, or he would never have made *this statement*.

To be successful in sending virgins a distance, they should be six days old, certainly not less than four days, and they must be packed and sent exactly as fertile queens, with a number of worker-bees to keep them company. There is no limit of age above this, only it should be remembered that if a queen does not mate before she is twenty days old, the chances are that she will be a drone-breeder, hence, it is the proper thing when selling these queens to guarantee the mating. Then, if they are too old to mate, the loss falls on the seller.

I consider that there are great possibilities in supplying virgin queens properly bred, as breeders can give their attention to rearing them, and make it not worth a bee-keeper's while to rear his own, particularly when well-bred virgin queens sent out can be guaranteed to produce bees that will not suffer from Winter diarrhoea.

I see by the *Canadian Bee Journal* for August 1, page 606, Mr. Jones replies to Mr. Doolittle's article in *Gleanings*, saying that the queens were introduced at dusk, but he does not give me the credit of first pointing out that the secret of success in introducing virgin queens lay in *giving them when it was DARK*, but credits it to one of his foremen or pupils. Certainly it was not mentioned by Mr. Jones or any one else until after my "Instructions for introducing virgin queens" had been printed in his journal.

Sheffield, England.

North American Bee-Keepers' Association.

Programme of the Convention to be held in Agricultural Hall, Albany, N.Y., Dec. 8 to 11. December 8 will be an informal meeting.

FIRST DAY.

Wednesday, Dec. 9, 9 a.m. President's Address.—P. H. Elwood, Starkville, N. Y.

Appointment of committees, and routine business.

10:30 a.m. Some of the Newer Races of Bees—Frank Benton, Washington, D. C. Discussion. Question-box.

2 p.m. The Prevention of Swarming.—W. F. Clarke, Guelph, Ontario, Can-

ada. Discussion: The prevention and control of swarming.

3:30 p.m. The Italian Bee. What are the principal points of excellence, and to which qualities should we give the preference, with a scale of markings as for neat stock?—Geo. H. Knickerbocker, Pine Plains, N. Y. Discussion. Question-box.

7:30 p.m. The Outlook for Apiculture at the Columbian Exposition.—A. B. Mason, Auburndale, O. Discussion.

SECOND DAY.

Thursday, Dec. 10, 9 a.m. Election of officers. Selection of next place of meeting. Business of the association. Volunteer contributions.

10:30 a.m. Discussion: Prices and uses of honey and sugar. Question-box.

2 p.m. Can we Settle upon Two Sizes of Sections as Standard?—C. C. Miller, Marengo, Ills. Discussion: What the Market demands for Packages and Grading. To be participated in by honey merchants and bee-keepers.

3:30 p.m. Discussion: What ought the Department of Agriculture to do in Apiculture? Question-box.

7:30 p.m. The Bees, the Location, and the Apiarist.—G. M. Doolittle, Bordino, N. Y. Discussion: Should Bee-Keeping be Made a Specialty?

THIRD DAY.

Friday, Dec. 11, 9 a.m. Some Facts Not Generally Known About Rendering Beeswax.—R. F. Holtermann, Brantford, Ontario. Discussion: Rendering and Purifying Beeswax, and Making Comb-Foundation Sheets.

10:30 a.m. Reports of Committees, and Unfinished Business. Adjournment.

Reduced Rates on Railroads.

One and one-third regular fare for round trip. The concession is for delegates and others going to Albany to attend the North American Bee-Keepers' Convention, Dec. 8-11, 1891, from the following described trunk-line territory:

By Central Traffic Association from St. Louis and nearly all points in Illinois, Indiana, Ohio, Pennsylvania, as far east as Pittsburg; New York, as far east as Salamanca; and Ontario, Canada, as far north as Toronto.

By the Trunk Line Association, which includes the remainder of New York, Pennsylvania, and New Jersey; and the Southern Passenger Association, which includes all the principal roads in the Southern States.

Bee-keepers from Vermont can obtain reduced rates over the Delaware & Hudson Canal Co. R. R., which can be con-

veniently taken at Addison Junction or Ticonderoga, N. Y., or at Rutland, Vt.

Instructions to Persons Attending the Meeting.

1. The concession is for delegates and others going to Albany from any of the above described trunk-line territory.

2. If the starting point is located on some small road, or one not in either of the three trunk-line associations making the concession, tickets should be purchased only to the most convenient place where a trunk-line certificate can be obtained, and thence by direct routes only, through to the place of meeting.

3. The going ticket must be purchased within three days before, or not more than three days after, the opening date of the meeting, otherwise no reduction in fare will be made on the return passage.

4. Each person availing himself of the concession will pay full tariff fare going to the meeting, and get a certificate filled in on one side by the agent of whom the ticket is purchased. (The agents keep the certificates in stock.)

5. Present the certificate to the Secretary at the meeting, that the other side may be filled in. Certificates are not transferable.

6. On presentation of the certificate, duly filled in on both sides, within three days (Sunday excepted) after the adjournment of the meeting, the ticket agent at Albany will return the person to his starting point at one-third regular fare. The return ticket will be issued over the route used in going to meeting, and will be available for continuous passage only.

Very Important.

7. It is absolutely necessary for each passenger, before starting, to obtain a certificate from the ticket agent at the point at which the going ticket is purchased, otherwise the passenger will be unable to obtain special rate for return journey, and will be obliged to pay full tariff rates in both directions.

8. Delegates, and others availing themselves of the concession, should present themselves at the office for certificates and tickets at least 30 minutes before the departure of trains.

9. Every person attending the meeting should get a certificate, no matter how short the distance, as, the more certificates are signed at the meeting, the easier it will be to secure reduced rates another year.

For hotel rates, see Convention Notice on page 726 of this issue.

CONVENTION DIRECTORY.*Time and place of meeting.*

1891.
 Dec. 8, 11.—North American, at Albany, N. Y.
 C. P. Dadant, Sec., Hamilton, Ills.
 Dec. 8, 11.—Eastern New York, at Albany.
 W. S. Ward, Sec., Fuller's Station, N. Y.
 Dec. 8, 9.—Kansas State, at Beloit.
 L. Wayman, Sec., Chanute, Kan.
 Dec. 15.—Huron, Tuscola and Sanilac, at
 Sebewaling, Mich.
 Jno. G. Kundlerer, Sec., Kilmanagh, Mich.
 Dec. 16, 17.—Illinois State, at Springfield.
 Jas. A. Stone, Sec., Bradfordton, Ills.
 Dec. 31.—Michigan State, at Grand Rapids.
 Geo. E. Hilton, Sec., Fremont, Mich.
 1892.
 Jan. 6, 7.—California State, at Los Angeles.
 C. W. Brodbeck, Sec., Los Angeles, Calif.
 Jan. 18, 19.—Colorado State, at Denver.
 H. Knight, Sec., Littleton, Colo.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—P. H. Elwood, Starkville, N. Y.
 SECRETARY—C. P. Dadant, Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon, Dowagiac, Mich.
 SEC'Y AND MANAGER—T. G. Newman, Chicago.

Bee and Honey Gossip.

Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Starved Bees.

I send you a piece of honey-comb, diseased in some way, and would like to have you tell me what is the matter with it.

WILLIAM L. UTTER.

Kortright Centre, N. Y., Nov. 12.

[There is nothing the matter with the comb. It contains no honey, and the few dead bees in it are entirely empty, showing that they starved.—Ed.]

Honey from Black-Jack Acorns.

My bees averaged 100 pounds of comb-honey to the colony. It was very good honey, and the majority of it came from black-jack acorns. Some insects punctured the acorn, and during the night a sweet substance oozed out, and

the bees, in the morning, would come in laden with the honey, and fall down all around the entrances to the hives.

J. D. WHITTENBURG.

Marshfield, Mo.

Bees Prepared for Winter.

My bees are nicely stored away in the cellar, to remain there until next Spring. Most of them, I think, were in prime condition, with plenty of young bees, and enough honey. Seven colonies are much lighter in weight than I expected, and I do not see how I neglected them when I was preparing them for Winter. I shall be obliged to watch them closely towards Spring, or the latter part of the Winter. I have 14 colonies that I shall winter on the summer stands. They are not in chaff hives; but are in a "fix up" hive that I constructed, with two dead-air spaces around, and one on the bottom of the hive. They are nicely packed over the brood-frames with fine excelsior. My impression is, that they are as good for out-door wintering as the chaff hive, the cost is much less, and there is no chaff to get damp and moldy. This out-door wintering is something that I have never practiced before, and it is really an experiment with me. If it proves a success, I will let all know as far as I can.

BENJ. E. RICE.

Boscobel, Wis., Nov. 19, 1891.

Milk-Weed.

My bees are in Winter quarters on the summer stands. They got no surplus honey this season until September; before that they only got a living. I offered them sugar syrup then, but they would not touch it. Then, for about two weeks they flew quite strongly in one direction, but where they got honey from I do not know. There is no buckwheat near Saginaw. In the beginning of October I found that they had the brood-chambers well filled. Last Winter I lost 2 colonies; they gathered mild-week honey, which, I think, was the cause of it. The hives were all stuck up. As my bees did not cast any swarms, and as I wanted a few more colonies, I took two of the strongest that had queen-cells, and divided them. They did well.

CHAS. DUCLOS.

Saginaw, Mich.

[It was doubtless *Asclepias purpurascens*, purple milk-weed, which kills bees by its sticky pollen masses.—Ed.]

Wavelets of News.

Increase and Honey.

J. F. Hecht, Plainview, Nebraska, bought a colony of bees last Spring, which cost him \$10. From that hive he has 6 swarms of bees and 400 pounds of honey. Mr. Hecht has taken great interest in studying the habits of bees, and has learned many curious and interesting things about them. Although the last season has probably been more bountiful than the average, he has demonstrated that with a little care bee-culture may be made quite profitable.—*Plainview Gazette.*

Bees in Winter.

During the Winter months the less bees are disturbed, wherever they are, or in whatever condition they are, the better for them. All that can be done for their protection and safety through the Winter should have been done before.

Some of our bee-keeping neighbors have wondered why I advise removing the entrance blocks during the Winter. I will explain by stating that as there is a high temperature in the cluster, and a low temperature outside of the cluster, it must follow that the moisture arising from the bees will be condensed on the side combs, and if the entrance be left wide open it will assist this vapor to pass out, thus keeping the bees in a dry, healthy condition.

From the above cause it often follows that bees starve to death in the midst of plenty, simply because they have consumed the stores within the cluster, and they cannot move to the side combs because they are as cold as ice and frosty.

There is certainly a great advantage in having the hive crowded with honey; it certainly pays to feed bees in the Fall, even when they seem to have an abundance, for if they do not consume it all they will be prepared to accept the surplus arrangements earlier next season. Strong colonies, in substantial hives, with an abundance of stores, are seldom known to perish in Winter.

Do not be alarmed when you see a few dead bees in front of the hive; they naturally die of old age, and to have them dragged out indicates a healthy colony within.—WALTER S. POWDER, in the *Indiana Farmer.*

Convention Notices.

☞ The annual meeting of the Colorado State Bee-Keepers' Association will be held in Denver, Jan. 18 and 19, 1892.

H. KNIGHT, Sec., Littleton, Colo.

☞ The Michigan State Bee-Keepers' Association will meet in Grand Rapids, Mich., on Thursday, Dec. 31, 1891, and Friday, Jan. 1, 1892. GEO. E. HILTON, Sec., Fremont, Mich.

☞ The Illinois State Bee-Keepers' Association will meet in Springfield, Ills., on Wednesday and Thursday, Dec. 16 and 17, 1891.

JAS. A. STONE, Sec., Bradfordton, Ills.

☞ The Kansas State Bee-Keepers' Association will hold their second annual meeting at Beloit, Kan., on Dec. 8 and 9, with the State Horticultural Association. All the bee-keepers of the State are cordially invited to attend.

L. WAYMAN, Sec., Chanute, Kan.

☞ The Eastern New York Bee-Keepers' Association will meet in convention with the North American Association, Dec. 8 to 11, in Agricultural Hall, Albany, N. Y.

W. S. WARD, Sec., Fuller's Station, N. Y.

☞ The Huron, Tuscola and Sanilac Counties Bee-Keepers' Association will meet at Concordia Hall, Sebawaing, Mich., on Dec. 15, 1891. All interested are cordially invited to attend, and help make this one of the best meetings ever held by this association.

JNO. G. KUNDINGER, Sec., Kilmanagh, Mich.

☞ A special session of the California Bee-Keepers' Association, in honor of the visit of Prof. A. J. Cook and A. I. Root, will be held in Los Angeles, Calif., at the Chamber of Commerce, Jan. 6 and 7, 1892. The California permanent exhibit in an adjoining room, will no doubt be of interest to all.

C. W. ABBOTT, Prest.

G. W. BRODBECK, Sec.

☞ The North American Bee-Keepers' Association will hold its annual convention in the Agricultural Hall, at Albany, N. Y., from Dec. 8 to 11, 1891. The hotel reduced terms are as follows: Globe Hotel, \$2 per day; American Hotel, \$2; Cox Brothers, No. 4 William st., \$1; W. H. Keeler, 488 Broadway, European plan, rooms 50 cts., 75 cts., and \$1; Kimbal House, 69 Washington st., \$1; Merchants Hotel, 497 Broadway, \$2; I. Keeler, restaurant, 56 State st.; Odel Restaurant, 94 State st. Reduced railroad rates have been secured from Chicago and the Mississippi River and from the South. Every local and State association should send one or more delegates. Those who intend to be present should send their names either to the President or Secretary. The programme will be issued soon, giving all particulars.

P. H. ELWOOD, Pres., Starkville, N. Y.

C. P. DADANT, Sec., Hamilton, Ills.

The Christmas number of Frank Leslie's Popular *Monthly* contains Joaquin Miller's new story, "The Red Shield." It is a romance drawn from the exciting history of the foundation of the great banking house of the Rothschilds, in the early part of the present century. There is an abundance of seasonable Christmas matter, together with the usual variety of tales, poems and miscellany.

**ADVERTISING RATES.**

20 cents per line of Space, each insertion.

No Advertisement inserted for less than \$1.00.

A line of this type will admit about eight words.
ONE INCH will contain TWELVE lines.

Editorial Notices, 50 cents per line.

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IN ADVANCE.

DISCOUNTS:

On 10 lines, or more, 4 times, 10%; 8 times,
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times, 40%.

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times, 60%.

On larger Advertisements, discounts will be
stated, upon application.

Advertisements intended for next week
must reach this office by Saturday of this week.

ALFRED H. NEWMAN,
BUSINESS MANAGER.

Special Notices.

All New subscribers for 1892 will
receive the remaining numbers of this
year free.

To Annual Advertisers.—On
all contracts made for the year 1892,
we will insert the advertisement as soon
as received, and no charge will be made
for the insertions this year. The matter
may be changed at any time, without
cost to the advertiser. "The early bird
catches the worm." Write for our terms,
and the sooner the contract is made the
more free insertions will be given.

CLUBBING LIST.

We Club the *American Bee Journal*
for a year, with any of the following papers
or books, at the prices quoted in the **LAST**
column. The regular price of both is given
in the first column. One year's subscription
for the *American Bee Journal* must be sent
with each order for another paper or book:

Price of both. Club.	
The American Bee Journal.....	\$1 00....
and Gleanings in Bee-Culture....	2 00.... 1 75
Bee-Keepers' Guide.....	1 50.... 1 40
Bee-Keepers' Review.....	2 00.... 1 75
The Apiculturist.....	1 75.... 1 65
Canadian Bee Journal.....	1 75.... 1 65
American Bee-Keeper.....	1 50.... 1 40
The 7 above-named papers.....	6 00.... 5 00
and Langstroth Revised (Dadant) 3 00....	2 75
Cook's Manual (1887 edition) 2 25....	2 00
Quinby's New Bee-Keeping. 2 50....	2 25
Doolittle on Queen-Rearing. 2 00....	1 75
Bees and Honey (Newman).....	2 00.... 1 75
Binder for Am. Bee Journal. 1 60....	1 50
Dzierzon's Bee-Book (cloth). 3 00....	2 00
Root's A B C of Bee-Culture 2 25....	2 10
Farmer's Account Book.....	4 00.... 2 20
Western World Guide.....	1 50.... 1 30
Heddon's book, "Success,".....	1 50.... 1 40
A Year Among the Bees.....	1 50.... 1 35
Convention Hand-Book.....	1 50.... 1 30
Weekly Inter-Ocean.....	2 00.... 1 75
Toronto Globe (weekly).....	2 00.... 1 70
History of National Society. 1 50....	1 25
American Poultry Journal.....	2 25.... 1 50
The Lever (Temperance).....	2 00.... 1 75
Orange Judd Farmer.....	2 00.... 1 75
Farm, Field and Stockman.....	2 00.... 1 75
Prairie Farmer.....	2 00.... 1 75
Illustrated Home Journal.....	1 50.... 1 35
American Garden.....	2 50.... 2 00
Rural New Yorker.....	2 50.... 2 00
Nebraska Bee-Keeper.....	1 50.... 1 35

Do not send to us for sample copies
of any other papers. Send for such to the
publishers of the papers you want.

When talking about Bees to your
friend or neighbor, you will oblige us by
commending the *BEE JOURNAL* to him, and
taking his subscription to send with your
renewal. For this work we will present you
with a copy of the *Convention Hand-Book*,
by mail, postpaid. It sells at 50 cents.

Bee-Keeping for Profit, by Dr.
G. L. Tinker, is a new 50-page pamphlet,
which details fully the author's new system
of bee-management in producing comb and
extracted-honey, and the construction of
the hive best adapted to it—his "Nonpareil."
The book can be had at this office for 25c.

Supply Dealers should write to us
for wholesale terms and cut for Hastings'
Perfection Feeders.

HONEY AND BEESWAX MARKET.

NEW YORK, Nov. 27.—Demand is limited, and supply sufficient. We quote: Comb—Fancy white, 1-lb., 14@15c; 2-lb., 12c; off grades, 1-lb., 12@13c; 2-lb., 10@11c; buckwheat, 1-lb., 10@11c; 2-lb., 9c. Extracted—Basswood, white clover and California, 6½@7c; orange bloom, 7@7½c; Southern, 65@70c per gal. Beeswax, 26@27c.

HILDRETH BROS. & SEGELKEN,
28-30 West Broadway.

KANSAS CITY, Nov. 28.—The demand and supply are fair. We quote: White comb, 1-lb., 15@16c; dark, 10@12c. Extracted—White, 7c; dark, 5@6c. Beeswax, is in light supply, and demand good, at 23@26c.

CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CINCINNATI, Nov. 28.—The demand is slow, with good supply, except choice comb. We quote: Choice white comb, 14@16c. Extracted, 5@5c. Beeswax is in good supply and fair demand, at 23@25c for good to choice yellow.

C. F. MUTH & SON,
Cor. Freeman & Central Aves.

NEW YORK, Nov. 27.—Demand for honey is fair, with adequate supply; buckwheat not so plentiful as clover. We quote: Fancy clover, 14@15c; fair, 1-lb., 12@13c; buckwheat, 10c. Extracted, 7@7½c. Beeswax, in fair demand, with adequate supply, at 25@27c.

CHAS. ISRAEL & BROS., 110 Hudson St.

CHICAGO, Nov. 28.—The demand is good for fancy white comb-honey, in 1-lb. sections, at 16c; other grades white, 14@15c. Extracted honey selling slowly, owing to warm weather. We quote it at 6½@7½c. Beeswax, in light supply and good demand, at 26@27c.

S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, Nov. 28.—Demand is good, with comb in fair and extracted in light supply. We quote: Comb—1-lb. fancy, 15@16c; dark, 12c. Extracted—White, 7@7½c; dark, 5@6c. Beeswax—None in market.

HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, Nov. 27.—The demand for comb-honey is fair and supply moderate. We quote: Comb, 12@13c; extracted, 7@8c. Beeswax in good supply, and light demand, at 25@26c.

M. H. HUNT, Bell Branch, Mich.

CHICAGO, Nov. 28.—Demand is good and supply small of gilt-edged stock. We quote: Choice white comb, 14@16c. Extracted, 6@8c. Beeswax, in light supply, and good demand, at 26@27c. J. A. LAMON, 44-46 S. Water St.

MILWAUKEE, Nov. 25.—Demand fair and supply good, except of the best quality. We quote: Comb—choice, 1-lb., 15@16c; fair, 13@14c; dark, 10@12c. Extracted—white, in barrels or kegs, 7½@8c; dark, 6@6½c. Beeswax, 23@28c.

A. V. BISHOP, 142 W. Water St.

SAN FRANCISCO, Nov. 24.—Demand good, supply small. We quote: Comb, 1-lb., 10@13c. Extracted, 5½@6½c. Beeswax, in light supply and good demand, at 23@24c.

SCHACHT, LEMCKE & STEINER,
16 Drumm Street.

NEW YORK, Nov. 27.—Demand moderate, and supply reduced, with no more glassed 1-lb. nor paper cartons, 1-lb. We quote: Comb, 1-lb., 14@15c. Extracted—Basswood, 7½@7¾c; buckwheat, 5½@6½c; Mangrove, 68@75c per gal. Good demand for dark extracted honey. Beeswax, in fair supply, with small demand, at 26@27c.

F. G. STROHMEYER & CO., 122 Water St.

CHICAGO, Nov. 28.—Demand is now good, supply is not heavy. We quote: Comb, best grades, 15@16c. Extracted, 6@8c. Beeswax, 26@27c. R. A. BURNETT, 161 S. Water St.

BOSTON, Nov. 27.—Demand is good, supply ample. We quote: 1-lb. fancy white comb, 15@16c; extracted, 7@9c. Beeswax, none in market.

BLAKE & RIPLEY, 57 Chatham St.

ALBANY, N. Y., Nov. 27.—Demand is good, and supply liberal. We quote: White comb, 14@16c. Extracted—White, 7½@8½c; dark, 6@6½c. Beeswax, supply light, and demand good at 28@30c.

H. R. WRIGHT, 326-328 Broadway.

NEW YORK, Nov. 27.—Demand is fair, and supply ample, except buckwheat comb. We quote: Fancy white comb, 14@15c; buckwheat, 10@11c. Extracted—Clover and basswood in good demand at 6@8c; buckwheat in demand at 5½@6½c. Beeswax in fair demand at 26@28c.

F. I. SAGE & SON, 183 Reade St.

If You Have any honey to sell, get some Honey Almanacs and scatter in your locality. They will sell it all in a very short time. We have a few Almanacs for 1891, which we are selling at half price.

Money in Cabbage and Celery.—"Blood will tell." Good crops cannot be grown with poor strains of seed.

For 16 years Tillinghast's Puget Sound Cabbage, Cauliflower and Celery Seeds have been gaining in popularity. The most extensive growers all over the Union now consider them the best in the world. A catalogue, giving full particulars regarding them, will be sent free to any one interested. When writing for it, enclose 20 cents in silver or postage stamps, and we will also send "How to Grow Cabbage and Celery," a book worth its weight in gold to any grower who has never read it. Address

ISAAC F. TILLINGHAST,
18A16t La Plume, Pa

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line**, for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—1,000 pounds of choice comb-honey. Will pay 25 cents for first-grade white clover honey, graded by rules adopted at Northwestern Convention. Address B. WALKER, Capac, Mich., or Glen Haven, Wis.

23A1t

Mention the American Bee Journal.

The Convention Hand-Book is very convenient at Bee-Conventions. It contains a simple Manual of Parliamentary Law and Rules of Order for Local Bee-Conventions; Constitution and By-Laws for a Local Society; Programme for a Convention, with Subjects for Discussion. In addition to this, there are about 50 blank pages, to make notes upon, or to write out questions, as they may come to mind. They are nicely bound in cloth, and are of the right size for the pocket. We will present a copy for one new subscription to the BEE JOURNAL (with \$1.00 to pay for the same), or 2 subscribers to the HOME JOURNAL may be sent instead of one for the BEE JOURNAL.

Well Pleased.

The October number of the HOME JOURNAL came duly, also the premium of \$2.00 in cash, for which please accept my thanks. I shall be pleased to answer any inquiries concerning your honorable dealings with me.

Belleville, Pa. KATE M. BOYER.

[Enclose an addressed postal card for reply.—Ed.]

We Have only a few Binders left of the large size, for the BEE JOURNALS previous to this year. If you want one, please send at once, before all are gone, as we shall not have any more made. Price, 60 cents.

We Club the American Bee Journal and the Illustrated Home Journal, one year for \$1.35. Both of these and Gleanings in Bee Culture, for one year, for \$2.15.

Pleasant Surprise.

Your draft for \$2.00 as a premium for answer to the rebus came to hand to-day, and was a pleasant surprise. On account of the distance from Chicago I feared that I could not get the answer to you in time to be on the first list of names, so that I might obtain the prize. I hope to be as well or better pleased with the perusal of the ILLUSTRATED HOME JOURNAL in my leisure hours.

P. S. GRINDLE.

Brooklyn, Ala., Oct. 29, 1891.

Advertisements.

WONDER STRAWBERRY

Produced a FULL CROP in OCTOBER

Get facts and testimonials in Catalogue.

Golden Rule Nursery, Hartford City, Ind.

23-24-1-2

Mention the American Bee Journal.

Rural Life!

100 Pages—Price, 25 Cents.

RARELY is such a collection of valuable ideas embodied in a pamphlet like this. Its scope is as broad as its title, and the matter is presented in a concise, "bolled-down" manner, giving experience of many in few words. Among the subjects treated are these: Economy; Prosperity and Adversity; Character; Health; Remedies; Mistakes of Life; Is Life worth Living; Domestic and Household Affairs; Planting and Culture of Vegetables; Planting, culture, trimming and training Vines, Trees and Plants; Bees, Poultry, Live-Stock, Farm Topics, Pithy Paragraphs, etc. It is neatly bound in paper covers, and has a comprehensive index.

FREE AS A PREMIUM We will present this Book to any person sending us one new subscriber for this JOURNAL, with the subscription price for a year.

THOMAS G. NEWMAN & SON,

199, 201, 203 East Randolph St., CHICAGO, ILLS.

PATENTS THOMAS P. SIMPSON, Washington D. C. No atty's fee until Patent obtained. Write for Inventor's Guide.

19D13t

Mention the American Bee Journal.

\$2,000 PER ACRE!

A NEW FRUIT!

Facts on file that it has produced the above, second year. Get Catalogue.

Golden Rule Nursery, Hartford City, Ind.

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EARLY QUEENS

From our Choice 5-Banded stock, ready to ship from branch apiary in Texas, in March, warranted purely mated, \$1.25; six for \$6.00.

BREEDING QUEENS,

\$3.00 to \$5.00 each. Our bees are excellent workers, gentle and beauties. Safe arrival and entire satisfaction guaranteed.

1D27t S. F. & I. TREGO, Swedona, Ill.

Mention the American Bee Journal.

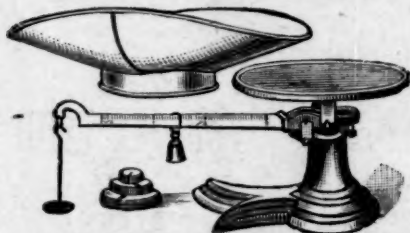
FRUIT TREES & WHOLESALE

Get our catalogue and save 50 per cent.

Golden Rule Nursery, Hartford City, Ind.

23-24-1-2

Mention the American Bee Journal.

"LITTLE DETECTIVE" SCALE.

This is the justly popular "Little Detective" Scale, and weighs from $\frac{1}{4}$ ounce to 25 pounds. Price, \$2.50 by express.

Given for 8 subscribers, at \$1.00 each.

Singer Style Sewing Machine.

Each machine is THOROUGHLY TESTED to see that it is perfect before leaving the Factory, and the manufacturers GUARANTEE EACH MACHINE FOR FIVE YEARS.

ALL THE MATERIAL entering into the construction of these machines is of the very best, and all the parts are nicely fitted. The wood work is of Black Walnut, Oil Polished. The iron work is nicely ornamented and japanned, and they are an ornament in any lady's room. With each machine we include a **full set of attachments**, which have formerly sold for as much as we now offer the machine, attachments and all.

These attachments include one Johnson's Foot Ruffler, one set of Hemmers, one Tucker, one Foot Hemmer or Friller, one Package of Needles, six Bobbins, one Screw Driver, one Oil Can, extra Check Spring, one Gauge, one Gauge Screw, one Wrench, and an Instruction Book, which will enable one not accustomed to running a machine, to soon learn.

Each machine is crated and delivered at the Express office or Freight depot in Chicago, and will go safely to any part of the country. The weight is about 100 pounds, and the cost of shipping within 500 miles of Chicago is from 50 cents to \$1.00; to the Atlantic Coast, the Gulf or about the same distance West, about \$1.50; and about double this to the Pacific Coast.

Price, \$15.00. Given for 60 Subscribers; or for 40 subscribers, with \$5.00 extra; or for 20 subscribers, with \$10.00 extra.

INSECTS AND INSECTICIDES**A PRACTICAL MANUAL,**

CONCERNING NOXIOUS INSECTS AND THE METHODS OF PREVENTING THEIR INJURIES.

By CLARENCE M. WEED,

Professor of Entomology and Zoology, New Hampshire State College.

It has been prepared with the idea of furnishing a short account of the injurious insects, and the latest and best remedies for them. It is profusely illustrated, and handsomely bound.

In the introduction there is a short discussion of the Transformations of Insects; Natural Enemies of Injurious Insects; the Principal Insecticides; Methods of applying Insecticides, with especial reference to Spraying; and Directions for Collecting and Preserving Insects.

"Dr. Weed's new book is a handy volume of nearly 300 pages, illustrated with 143 illustrations, and 7 full-page plates. The style is simple and non-technical, and the important facts are condensed in a clear, concise manner. The work will prove useful to the fruit-grower, general farmer and housekeeper, and will unquestionably meet a demand among those who have not access to entomological libraries."—INSECT LIFE.

Sent, postpaid, to any address for \$1.25.

Given for 6 new subscriptions for one year at \$1 each.

Wet Feet, a Cold, Doctor's Bill

DEATH AND FUNERAL EXPENSES,
COST ABOUT \$200.

Root's Household Repairing Outfit,

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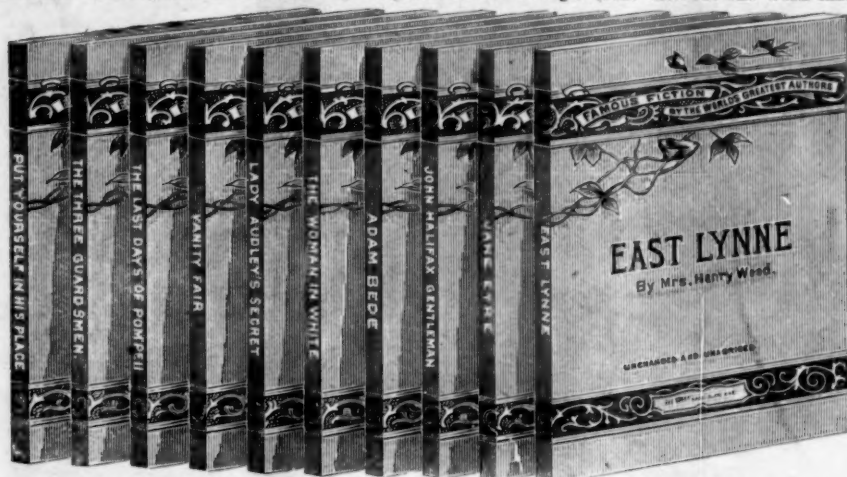


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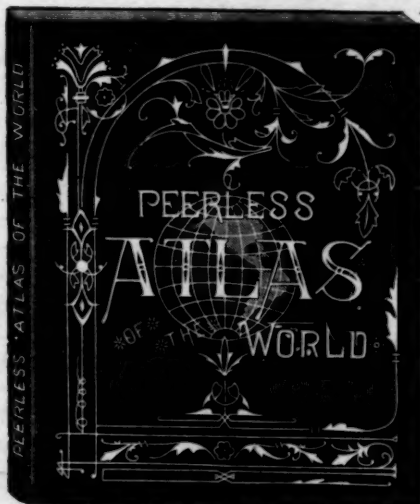
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